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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,511	12/28/2005	Bernd Clauberg	US030201	7969
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,511

Applicant(s)

CLAUBERG, BERND

Examiner

Ephrem Alemu

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-6 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smalls (2003/0222791).

Re claim 1, Smalls discloses a traffic light (i.e., portable warning light apparatus), comprising: a voltage source (60, 62); a first LED circuit (70, 84) including a series connection of a first LED array (70), a first current limiter (i.e., resistors connected with the first LED array 70) and a first electronic switch (84) to the voltage source (60) (Fig. 6; abstract);

a switch controller (80) operable to selectively open and close the first electronic switch (84), wherein the first current limiter (i.e., resistors connected with the first LED array 70) controls a flow of a first LED current from the voltage source (60, 62) through the first LED array (70) whenever the switch controller (80) closes the first electronic switch (84), and wherein the flow of the first LED current from the voltage source (60, 62) through the first LED array (70) is impeded whenever the switch controller (80) opens the first electronic switch (84) (Fig. 6); a second LED circuit (i.e., resistors connected with the second LED array 72, and switch 86) connected in parallel to the first LED circuit (i.e., resistors connected with the first LED array 70, and switch 84), the second LED circuit including a series connection of a second LED array (84), a second current limiter (i.e., resistors connected with the second LED array 72) and a second electronic switch (86) to the voltage source (60, 62), wherein the switch

controller (80) is further operable to selectively open and close the second electronic switch (62), wherein the second current limiter (i.e., resistors connected with the second LED array 72) controls a flow of a second LED current from the voltage source (60, 62) through the second LED array (72) whenever the switch controller (80) closes the second electronic switch (86), and wherein the flow of the second LED current from the voltage source (60, 62) through the second LED array (72) is impeded whenever the switch controller (80) opens the second electronic switch (86) (Fig. 6; paragraphs [0045] to [0047]).

Although, Smalls does not mention the switch controller (80) is further operable to prevent simultaneous closure of the first and second electronic switches (84, 86), Smalls teaches of operating the front and rear LEDs array independently (paragraph [0040]).

Therefore, the Small's switch controller (80) being further operable to prevent simultaneous closure of the first and second electronic switches (84, 86) would have been within a routine skill of an artisan and an obvious design choice for no other reason than operating the first and second LEDs array (70, 72) independently to further reduce power consumption.

3. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colby (US 6,809,655) in view of Swanson (US 6,362,578).

Re claims 1 and 3-5, Colby discloses a known traffic light system comprising a traffic light (420) having a first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) that are selectively controlled by a single control module including electronics as illustrated and described in Figs. 2B, 4B; Col. 1, lines 24- 30; Col. 1, line 48- Col. 2, line 4).

However, Colby does not show the detailed structure of the single control module for controlling the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) for displaying a

specific pattern of traffic light.

In a related art area, Swanson discloses LED driver circuit and method for controlling a first to third LED circuit; wherein each of the first to third LED circuit including a series connection of a first to third LED arrays (14, 16, 18), a first to third current limiters (30, 30, 30) and a first to third electronic switches (24, 26, 28) to the voltage source (B+); wherein the first, second and third LED circuits are connected in parallel (Fig. 1; Col. 1, lines 38-47; Col. 3, lines 13-19; Col. 7, 12-19); and

a switch controller (i.e., PWM 38) operable to selectively open and close the first to third electronic switches (24, 26, 28), wherein the first to third current limiters (30, 30, 30) controls a flow of one of a first to third LED current from the voltage source (B+) through the first to third LED arrays (14, 16, 18) whenever the switch controller (i.e., PWM 38) selectively closes one of the first to third electronic switches (24, 26, 28), and wherein the flow of one of a first to third LED current from the voltage source (B+) through the first to third LED arrays (14, 16, 18) is impeded whenever the switch controller (i.e., PWM 38) selectively open one of the first to third electronic switches (24, 26, 28) (Fig. 1; Col. 1, lines 38-47; Col. 3, lines 13-24; Col. 7, lines 12-19; Col. 1, lines 34-37).

Although, Swanson does not mention the switch controller (i.e., PWM 38) is further operable to prevent simultaneous closure of the first to third electronic switches (24, 26, 28), Swanson teaches the switch controller (i.e., PWM 38) selectively closes or open one of the first to third electronic switches (24, 26, 28) to enable or disable the flow of current through one of the first to third LED arrays (14, 16, 18) (Col. 3, lines 20-24).

Therefore, Swanson's switch controller (i.e., PWM 38) being further operable to

prevent simultaneous closure of the first to third electronic switches (24, 26, 28) would have been within a routine skill of an artisan and an obvious design choice for no other reason than controlling the first to third electronic switches (24, 26, 28) independently.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Colby's single control module for controlling the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) as taught by Swanson by providing first to fifth electronic switches and first to fifth current limiters in series with the first to fifth LED arrays associated with Colby's first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) for no other reason than controlling flow of traffic at an intersection as is well known in the art.

4. Claims 6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colby (US 6,809,655) in view of Hutchison (US 2002/0175826).

Re claims 6 and 8, Colby discloses a known traffic light system comprising a traffic light (420) having a first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) that are selectively controlled by a single control module including electronics as illustrated and described in Figs. 2B, 4B; Col. 1, lines 24- 30; Col. 1, line 48- Col. 2, line 4).

However, Colby does not show the detailed structure of the single control module for controlling the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) for displaying a specific pattern of traffic light.

In a related art area, Hutchison discloses a traffic light (Fig. 4a), comprising: a current source (i.e., Q9); a first, second and third LED circuits (i.e., LED strings 26, 28, 30) connected in series to the current source (i.e., voltage source 40), the first, second and third LED circuits

(i.e., LED strings 26, 28, 30) including a parallel connection of a first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) and a first, second and third electronic switches (Q9, Q8, Q15); and a switch controller (64) operable to selectively open and close each of the first, second and third electronic switches (Q9, Q8, Q15), wherein a first, second and third LED current flow from the current source (i.e., voltage source 40) through the first, second and third LED array (i.e., LEDs within string 26) whenever the switch controller (64) opens the first, second and third electronic switches (Q9, Q8, Q15), and wherein the flow of the first, second and third LED current from the current source (i.e., voltage source 40) through the first, second and third LED array (i.e., LEDs within strings 26, 28, 30) is impeded whenever the switch controller (64) closes the first, second and third electronic switches (Q9, Q8, Q15) (Figs. 3, 4a; paragraphs (0008), [0016], [0022], [0023]).

Although, Hutchison does not mention the switch controller being further operable to prevent simultaneous closure of the first, second and third electronic switches, Hutchison teaches selectively enabling the first, second and third electronic switches (Q9, Q8, Q15) associated with the first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) to electrically bypass the associated set of operative LEDs from the first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) (Figs. 3, 4a; paragraphs (0008), [0016], [0022], [0023]).

Therefore, the switch controller (64) of Hutchison being further operable to prevent simultaneous closure of the first, second and third electronic switches (Q9, Q8, Q15) associated with the first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) would have been an obvious design choice for no other reason than

operating the first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) independently.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Colby's single control module for controlling the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) as taught by Hutchison by providing first to fifth electronic switches in shunt with the first to fifth LED arrays associated with Colby's the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) for no other reason than controlling flow of traffic at an intersection as is well known in the art.

Response to Arguments

5. Applicant's arguments filed 11/02/2007 have been fully considered but they are not persuasive.

Applicant's argument that Smalls publication fails to disclose, teach, or suggest a traffic light wherein said switch controller (21) is further operable to prevent simultaneous closure of the first electronic switch (32) and the second electronic switch (42), as recited in amended independent claim 1 is respectfully disagreed.

Although, Smalls does not mention the switch controller (80) is further operable to prevent simultaneous closure of the first and second electronic switches (84, 86), Smalls teaches of operating the front and rear LEDs array independently (paragraph [0040]). Therefore, the Small's switch controller (80) being further operable to prevent simultaneous closure of the first and second electronic switches (84, 86) would have been within a routine skill of an artisan and an obvious design choice for no other reason than operating the first and second LEDs array (70, 72) independently to further reduce power consumption.

Applicant's argument that Hutchison publication fails to disclose, teach, or suggest a traffic light wherein the switch controller (71) is further operable to prevent simultaneous opening of said first electronic switch (81) and said second electronic switch (91), as recited in amended independent claim 6, is respectfully disagreed.

Although, Hutchison does not mention the switch controller being further operable to prevent simultaneous closure of the first, second and third electronic switches, Hutchison discloses all the structural limitation as recited in claim 6, and further teaches selectively enabling the first, second and third electronic switches (Q9, Q8, Q15) associated with the first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) to electrically bypass the associated set of operative LEDs from the first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) ((Figs. 3, 4a; paragraphs [0008], [0016], [0022], [0023]).

Therefore, the switch controller (64) of Hutchison being further operable to prevent simultaneous closure of the first, second and third electronic switches (Q9, Q8, Q15) associated with the first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) would have been an obvious design choice for no other reason than operating the first, second and third LED arrays (i.e., LEDs within first, second and third strings 26, 28, 30) independently.

Applicant's argument that Colby patent and the Swanson patent fails to disclose, teach, or suggest a traffic light wherein the switch controller (21) is further operable to prevent simultaneous closure of the first electronic switch (32) and the second electronic switch (42), as recited in amended independent claim 1, is respectfully disagreed.

Although, Swanson does not mention the switch controller (i.e., PWM 38) is further

operable to prevent simultaneous closure of the first to third electronic switches (24, 26, 28), Swanson teaches the switch controller (i.e., PWM 38) selectively closes or open one of the first to third electronic switches (24, 26, 28) to enable or disable the flow of current through one of the first to third LED arrays (14, 16, 18) (Col. 3, lines 20-24). Therefore, Swanson's switch controller (i.e., PWM 38) being further operable to prevent simultaneous closure of the first to third electronic switches (24, 26, 28) would have been within a routine skill of an artisan and an obvious design choice for no other reason than controlling the first to third electronic switches (24, 26, 28) independently.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Colby's single control module for controlling the first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) as taught by Swanson by providing first to fifth electronic switches and first to fifth current limiters in series with the first to fifth LED arrays associated with Colby's first to fifth LED circuits (i.e., 110A, 110B, 110C, 440, 450) for no other reason than controlling flow of traffic at an intersection as is well known in the art.

In response to Applicant's argument Colby is silent from the lamp being controlled by a single control module is respectfully disagreed. Colby's patent in Col. 2, lines 1-3 recited several traffic signals being supported by one or more supporting elements and coupled through a single control module including electronics. The reason why Colby does not show the detailed single control module including electronics is because such a structure being well known in the lighting art as is evidenced above by Smalls, Swanson, and Hutchinson publications and patent.

Conclusion

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (571) 272-1818. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2821

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EA

2/26/08

/Douglas W Owens/

Supervisory Patent Examiner, Art Unit 2821

February 27, 2008